



# UNITED STATES PATENT AND TRADEMARK OFFICE

AC  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,176	12/12/2000	Takumi Mikawa	0819-466	5101

7590 08/29/2003

Eric J. Robinson  
Nixon Peabody LLP  
Suite 800  
8180 Greensboro Drive  
McLean, VA 22102

EXAMINER

LOKE, STEVEN HO YIN

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/734,176	MIKAWA ET AL.
	Examiner Steven Loke	Art Unit 2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 13 August 2003.

2a) This action is FINAL.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1,3-5 and 10-12 is/are pending in the application.

4a) Of the above claim(s) 3-5 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1 and 10-12 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)                            4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                            5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.

6) Other: \_\_\_\_\_.

1. Claims 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11, line 13, the phrase "the ferroelectric film is like SrBi<sub>2</sub>Ta<sub>2</sub>O<sub>9</sub>" is unclear whether the ferroelectric film is made of SrBi<sub>2</sub>Ta<sub>2</sub>O<sub>9</sub> or the compound of SrBi<sub>2</sub>Ta<sub>2</sub>O<sub>9</sub>.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanaya et al.

In regards to claims 1 and 11, Kanaya et al. disclose a semiconductor device in fig. 48. It comprising: a lower electrode [410A] formed on a substrate [301]; a capacitive insulating film [412A] formed out of a ferroelectric film on the lower electrode; an upper electrode [414A] formed on the capacitive insulating film [412A]; a contact layer [402] formed on the upper electrode so as not to contact with the capacitive insulating film [412A]; an insulating film [306b] formed to cover the lower electrode [410A], the capacitive insulating film [412A], the upper electrode [414A] and the contact layer [402]; a contact hole passing through the insulating film [306b] and the contact layer [402] to reach the upper electrode [414A]; and an interconnect [307], which is defined on a part of the insulating film [306b], provided at least in the contact hole and connected to the upper electrode [414A], wherein the ferroelectric film includes SrBi<sub>2</sub>Ta<sub>2</sub>O<sub>9</sub> (SBT) (col.

22, lines 1-6), and wherein the contact layer [402] is a single-layer film being made of a metal oxide (titanium oxide) (col. 18, lines 1-5, claims 1, 3 and 4 of Kanaya et al.).

Kanaya et al. differ from the claimed invention by not showing the interconnect is made of metal. It would have been obvious for the interconnect is made of metal, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

In regards to claims 10 and 12, Kanaya et al. further disclose the upper electrode [414A] contains Pt (platinum) (col. 19, line 33), and wherein the metal oxide film is made of an oxide of Ti (titanium).

4. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Loke whose telephone number is (703) 308-4920. The examiner can normally be reached on 7:50 am to 5:20 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Application/Control Number: 09/734,176  
Art Unit: 2811

Page 4

August 22, 2003

Steven Loh  
Priority Examiner

*Steven Loh*